

REMARKS

Claims 1-14 were presented for examination.

Claims 1-11 and 14 were rejected under 35 U.S.C. § 102(e) as being anticipated by Gerhardt.

Claims 9 and 11-14 were rejected under 35 U.S.C. § 102(e) as being anticipated by Yoshizawa.

Applicants have amended the claims, combining some dependent claims with the independent claims, and canceling some claims, in a manner Applicants believe distinguishes over Gerhardt and Yoshizawa.

A. Gerhardt Reference

Gerhardt does not teach variable valve actuation. The present application, on page 11, lines 3-6, specifically describes the variable valve actuation of the present invention. Gerhardt does not have variable valve actuation. All Gerhardt does is to shut OFF, or turn ON, a valve as is shown in paragraph 48. Gerhardt refers to a cylinder being “shut down,” “reduced to zero” or “deactivating...so that no fuel air mixture can reach the combustion chamber....” Clearly, Gerhardt does not have a “means for varying the operation of said intake valve and said exhaust valve” as is claimed in amended Claim 1.

Also, specifically claimed in independent Claim 1 is the “stoichiometric mixture of air and fuel.” Gerhardt does not have a stoichiometric mixture. A cylinder is either cut ON or OFF. In the present application, page 11, lines 12-17, it was pointed out that deactivating a cylinder upsets the stoichiometric mixture of gases and contributes to the overall inefficiency of the engine through pumping losses. That is exactly what occurs in Gerhardt. Gerhardt does not have a stoichiometric mixture.

Referring to dependent Claim 7, Gerhardt does not provide for exhaust gas recirculation as is specifically claimed in dependent Claim 7.

Referring to amended Claim 9, an exhaust gas recirculation system is claimed that is not shown in Gerhardt.

Also, as was pointed out with respect to independent Claim 1, independent Claim 9 claims a “homogenous stoichiometric air-fuel charge,” which does not exist in Gerhardt, due to the shutting off of cylinders at various times.

In view of the above noted features of the present invention, as now claimed, that are not disclosed, taught or suggested by Gerhardt, it is respectfully submitted that the rejection based on 35 U.S.C. § 102(a) as being anticipated by Gerhardt is overcome.

B. Yoshizawa Reference

The Yoshizawa reference was only applied to Claims 9 and 11-14. The Yoshizawa reference is for a Diesel engine. One that is familiar with the terminology in the automobile industry would recognize Yoshizawa refers to a Diesel engine when Yoshizawa refers to “auto-ignition.” Combustion of an air/fuel mixture in a Diesel engine is by auto-ignition.

The present invention, as claimed in independent Claim 9, claims a flame propagation engine and a high energy ignition system. Those exist in gasoline engines, propane engines and similar type engines, but not in Diesel engines. Flame propagation engines are completely different engine. The combustion process and operation of auto-ignition and flame propagation engines are completely different. Referring specifically to the claim language of independent Claim 9, Yoshizawa does not show a flame propagation or high energy ignition system.

Yoshizawa further does not show “controllably deactivating selected ones of said combustion chambers” as is specifically claimed in independent Claim 9 as amended.

Also, as claimed in dependent Claim 12, a pilot fuel is injected into the combustion chamber "in advance of the primary injection of fuel." In the Yoshizawa reference, it is just the opposite, where there is a main injection and a subsequent trigger injection as is pointed out in the Abstract.

For the reasons given hereinabove, it is submitted that Claim 9 as now amended overcomes the rejection and Claim 9, along with remaining dependent Claims 12-14, which depend directly from Claim 9, are now in condition for allowance.

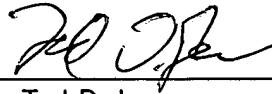
CONCLUSION

For the reasons given hereinabove, the rejection of the claims as now amended under Gerhardt or Yoshizawa should be withdrawn. A Notice of Allowance is respectfully requested.

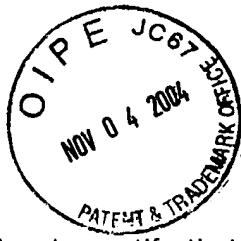
Respectfully submitted,

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